13. The system of claim **11**, wherein the obtained images comprise at least two passive non-luminous objects being held by different respective users;

the system further comprising a user identification unit operable to associate each passive non-luminous object with a different respective user based on at least one of a relative distance and depth between the passive non-luminous objects exceeding a threshold value; and

wherein the user input generator is configured to generate user inputs for each user participating in a video game session based on the changes in pose detected of the corresponding passive non-luminous objects.

14. The system of claim **11**, wherein the user input generator is configured to generate a different respective user input for each change in pose in a respective dimension.

15. The system of claim **1**, further comprising:

an image generator operable to generate an image of a virtual button for superimposing on top of a user's view of the passive non-luminous object;

a display for displaying the image of the virtual button at a location that corresponds to a location on the surface of the passive non-luminous object;

a finger detector operable to detect a user's finger in the obtained images and a location of the finger relative to the passive non-luminous object;

wherein the finger detector is configured detect when a user's finger coincides with the location of the virtual button, and in response to determining that the user's finger coincides with the location of the virtual button, provide an input to the user input generator; and

wherein the user input generator is configured to generate a user input in accordance with a pressing of the virtual button.

16. The system of claim **1**, comprising a camera operable to capture images of the non-luminous object being held by the user; and

wherein the input unit is operable to receive the images of object captured by the camera.

17. The system of claim **1**, comprising the video game unit operable to receive the input from the user input generator.

18. A method for generating user inputs for a video game, the method comprising;

obtaining a plurality of images of a passive non-luminous object being held by a user;

detecting pixels in the obtained images as corresponding to the passive non-luminous object, the pixels corresponding to the object itself and not a physical identifier that has been added to the object;

detecting changes in pose of the passive non-luminous object based on the obtained images of the object;

wherein detecting the pose of the passive non-luminous object is based on at least one of a (i) contour detection operation and (ii) the output of a machine learning model that has been trained to detect the poses of objects in images;

generating, based on the detected changes in pose of the passive non-luminous object, a user input for controlling a virtual object in a video game; and

transmitting the generated user input to a video game processor so as to control the virtual object in a video game in accordance with the generated user input.

19. A non-transitory machine-readable storage medium which stores computer software which, when executed by a computer, causes the computer to perform a method for generating user inputs for a video game, the method comprising;

obtaining a plurality of images of a passive non-luminous object being held by a user;

detecting pixels in the obtained images as corresponding to the passive non-luminous object, the pixels corresponding to the object itself and not a physical identifier that has been added to the object;

detecting changes in pose of the passive non-luminous object based on the obtained images of the object;

wherein detecting the pose of the passive non-luminous object is based on at least one of a (i) contour detection operation and (ii) the output of a machine learning model that has been trained to detect the poses of objects in images;

generating, based on the detected changes in pose of the passive non-luminous object, a user input for controlling a virtual object in a video game; and

transmitting the generated user input to a video game processor so as to control the virtual object in a video game in accordance with the generated user input.

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